

**Saint Joseph's College of Maine
Cumberland County
Standish, Maine
A-729-71-D-A/R**

**) Departmental
) Findings of Fact and Order
) Air Emission License**

After review of the air emissions license renewal application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., Section 344 and Section 590, the Department finds the following facts:

I. REGISTRATION

A. Introduction

1. Saint Joseph's College of Maine (Saint Joseph's College) in Standish, Maine has applied to renew their Air Emission License permitting the operation of emission sources associated with their Standish, Maine private educational facility.
2. This license renewal shall include an amendment to reflect the removal of two previously licensed boilers and the replacement of the removed boilers with three new boilers. The two boilers being removed were previously designated Boilers #3 and #4 and the three new boilers will be designated Boilers #3, #4 and #5.
3. This license renewal shall also include an amendment to reflect the installation of a new propane fired emergency generator. The new unit will be designated Emergency Generator #4.

B. Emission Equipment

Saint Joseph's College is authorized to operate the following equipment:

Electrical Generation Equipment

<u>Equipment</u>	<u>Power Output (kW)</u>	<u>Fuel Type</u>	<u>Maximum Firing Rate (cfh*)</u>	<u>Location</u>	<u>Pollution Controls Equipment</u>
Emer. Gen. #1	85	Propane	616	Mercy Hall	None
Emer. Gen. #2	50	Propane	270	Saint Joseph's Hall	None
Emer. Gen. #3	80	Propane	580	Currier Hall	None
Emer. Gen. #4	55	Propane	295	Academic Building	None

*CFH = Cubic Feet per Hour

Fuel Burning Equipment

<u>Equipment</u>	<u>Maximum Capacity (MMBtu/hr)</u>	<u>Maximum Firing Rate (gal/hr)</u>	<u>Fuel Type, % sulfur</u>	<u>Location</u>	<u>Stack #</u>
Boiler #1	2.0	15	#2 Oil, 0.35%	Mercy Hall	1
Boiler #2	2.0	15	#2 Oil, 0.35%	Mercy Hall	1
Boiler #3	1.5	10.7	#2 Oil, 0.35%	Saint Joseph's Hall	2
Boiler #4	2.5	18.9	#2 Oil, 0.35%	Saint Joseph's Hall	2
Boiler #5	4.0	28.6	#2 Oil, 0.35%	Saint Joseph's Hall	2
Furnace #1 (HV #1)	1.2	13.1	Propane	Campus Center	-
Furnace #2 (HV #2)	1.2	13.1	Propane	Campus Center	-
Hot Water Heater #2	1.5	16.4	propane	Campus Center	-

C. Application Classification

Saint Joseph's College is a licensed source with ongoing equipment changes that have not been addressed in the facility's previous air emissions licenses. The license renewal shall include the operation of the new and previously unlisted equipment. Therefore, the application for Saint Joseph's College of Maine is considered to be a renewal and amendment.

II. BEST PRACTICAL TREATMENT (BPT)

A. Introduction

In order to receive a license the applicant must control emissions from each unit to a level considered by the Department to represent Best Practical Treatment (BPT), as defined in Chapter 100 of the Department regulations. Separate control requirement categories exist for new and existing equipment as well as for those sources located in designated non-attainment areas.

BPT for existing emissions equipment means that method which controls or reduces emissions to the lowest possible level considering:

- the existing state of technology;
- the effectiveness of available alternatives for reducing emission from the source being considered; and
- the economic feasibility for the type of establishment involved.

BPT for new sources and modifications requires a demonstration that emissions are receiving Best Available Control Technology (BACT), as defined in Chapter 100 of the Air Regulations. BACT is a top-down approach to selecting air emission controls considering economic, environmental and energy impacts.

B. Facility Boilers

Saint Joseph's College's air emission license A-729-71-A-N permitted the operation of Boilers #1 through #4 for facility hot water and heating needs. Boilers #1 and #2 both have a maximum design heat input capacity of 2.0 MMBtu/hr each firing #2 fuel oil and both are located in Mercy Hall. Boilers #1 and #2 have input capacities below 10 MMBtu/hr and therefore, are not subject to EPA New Source Performance Standards (NSPS) 40 CFR Subpart Dc, for boilers with a heat input of 10 MMBtu/hr greater and manufactured after June 9, 1989.

Saint Joseph's College plans to remove the previously licensed Boilers #3 and #4 located in Saint Joseph's Hall and replace the boilers with three new boilers to be designated Boilers #3, #4 and #5. The three new boilers have maximum design heat input capacities of 1.5 MMBtu/hr, 2.5 MMBtu/hr and 4.0 MMBtu/hr respectively. Boilers #3, #4 and #5 have input capacities below 10 MMBtu/hr and therefore, are not subject to EPA New Source Performance Standards (NSPS) 40 CFR Subpart Dc, for boilers with a heat input of 10 MMBtu/hr greater and manufactured after June 9, 1989.

Air emission license amendment A-729-72-B-M, required Saint Joseph's College to change from burning #2 fuel with a sulfur content of no greater than 0.5% sulfur by weight to #2 fuel oil with a sulfur content of no greater than 0.35% sulfur by weight. The change was determined to be a BACT requirement and Saint Joseph's College was to make the change concurrent with the expiration of the fuel supply contract of that time. Saint Joseph's College has requested that the firing of #2 fuel with a sulfur content no greater than 0.5% sulfur by weight constitute BACT for the facility's oil fired boilers due to the fact that the fuel oil supplier will not guarantee the supply of #2 fuel oil with a sulfur content of no greater than 0.35% sulfur. The Department has determined that Saint Joseph's College is located in an area of Maine in which the supply of #2 fuel oil with a sulfur content of no greater than 0.35% sulfur has historically had sufficient availability and the BACT requirement for the firing of #2 fuel oil with a sulfur content of no greater than 0.35% sulfur by weight is reasonable. To demonstrate compliance with the sulfur restriction, Saint Joseph's College shall maintain a record of fuel oil purchases, which shall include certification from the supplier indicating the sulfur content of the purchased fuel.

- A summary of the BPT analysis for Boiler #1 (2.0 MMBtu/hr) and Boiler #2 (2.0 MMBtu/hr) is as follows:
 1. BPT for PM/PM₁₀ limits is 0.12 lb/MMBtu for the Boilers.
 2. BPT for the firing of #2 fuel oil is a sulfur content of no greater than 0.35% by weight.

3. NO_x, SO₂, CO and VOC emission limits are based upon previously licensed limits for Boilers #1 and #2.
 4. Visible emissions from stack #1 or stack #2 shall not exceed 20% opacity on a (6) six-minute block average.
- A summary of the BACT analysis for #3 (1.5 MMBtu/hr), Boiler #4 (2.5 MMBtu/hr) and boiler #5 (4.0 MMBtu/hr) is as follows:
 1. BACT for PM/PM₁₀ limits is 0.08 lb/MMBtu for the Boilers.
 2. BACT for the firing of #2 fuel oil is a sulfur content of no greater than 0.35% by weight.
 3. NO_x, SO₂, CO and VOC emission limits for Boilers #3, #4 and #5 are based on AP-42 emissions factors dated 9/98.
 4. Visible emissions from stack #3, #4 or #5 shall not exceed 20% opacity on a (6) six-minute block average.

C. Additional Fuel Burning Equipment

Saint Joseph's College utilizes two furnaces, designated HV #1 and HV #2, and a hot water heater, designated Hwh #2, to satisfy the heat and hot water needs of the campus center. The two furnaces each have a maximum design heat input capacity of 1.2 MMBtu/hr firing propane. The hot water heater has a maximum design heat input capacity of 1.5 MMBtu/hr firing propane. HV #1, HV #2 and Hwh #2 have input capacities below 10 MMBtu/hr and therefore, are not subject to EPA New Source Performance Standards (NSPS) 40 CFR Subpart Dc, for boilers with a heat input of 10 MMBtu/hr greater and manufactured after June 9, 1989.

A summary of the BPT analysis for HV #1 (1.2 MMBtu/hr), HV #2 (2.0 MMBtu/hr) and Hwh #2 (1.5 MMBtu/hr) is as follows:

1. PM/PM₁₀, NO_x, SO₂, CO and VOC emission limits for HV #1, HV #2 and Hwh #2 are based upon previously licensed limits.
2. Visible emissions from the HV#1, HV#2 and Hwh #2 exhaust vents shall not exceed 20% opacity on a (6) six-minute block average.

D. Emergency Generators

Saint Joseph's College operates three propane fired generator units, designated Emergency Generators #1, #2 and #3, for emergency electrical needs within the facility dormitory and classroom buildings. The 85 kW Emergency Generator #1 is located in Mercy Hall and has an approximate maximum design heat input capacity of 1.0 MMBtu/hr. The 50 kW Emergency Generator #2 is located in Saint Joseph's Hall and has an approximate maximum design heat input capacity of 0.6 MMBtu/hr. The 80 kW Emergency Generator #3 is located in Currier Hall and has an approximate maximum design heat input capacity of 0.9 MMBtu/hr.

Saint Joseph's College plans to install a new propane fired emergency generator. The proposed new emergency generator is a 55 kW propane fired generator unit, designated Emergency Generator #5, has an approximate maximum design heat input capacity of 0.5 MMBtu/hr and will be located in the academic building.

The facility has a licensed operational limit for Emergency Generators #1, #2 and #3 of 500 hours of operation per year each based on a twelve-month rolling total. The new emergency generator shall also have a licensed operational limit of 500 hours of operation per year each based on a twelve-month rolling total.

The emergency generator units shall be operated only when normal testing procedures, as recommended by the manufacturer, are being performed or in case of an emergency as defined by the following:

- Definition of "Emergency"

"... any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error."

- By definition, a generator used for load shedding purposes (also known as a "Dispatchable Load Generator") is not considered an "Emergency Generator".

To demonstrate compliance with hours of operation limits on the emergency generators, Saint Joseph's College shall install, operate and maintain an hour meter on each emergency generator unit within 6 months of the issuance of this license. Saint Joseph's College shall also maintain a log of operation of emergency generator operations that shall include hours of operation of each generator, dates of operation of each generator and reason for operation.

- A summary of the BPT analysis for the 85 kW Emergency Generator #1 (1.0 MMBtu/hr), the 50 kW Emergency Generator #2 (0.6 MMBtu/hr) and the 80 kW Emergency Generator #3 (0.9 MMBtu/hr) is as follows:
 1. PM/PM₁₀, NO_x, SO₂, CO and VOC emission limits are based upon previously licensed limits.
 2. Visible emissions from the Emergency Generators #1, #2 and #3 exhaust vents shall not exceed 10% opacity on a (6) six-minute block average.
- A summary of the BACT analysis for the 55 kW Emergency Generator #4 (0.5 MMBtu/hr) is as follows:
 1. PM/PM₁₀, NO_x, SO₂, CO and VOC emission limits are based upon AP-42 emission factors for the combustion of propane dated 10/96.
 2. Visible emissions from the Emergency Generator #4 exhaust vent shall not exceed 10% opacity on a (6) six-minute block average.

E. Additional Insignificant Emergency Generators

Saint Joseph's College operates several propane fired generator units whose rated heat input capacities are below the licensing threshold of 0.5 MMBtu/hr established by Chapter 115 of the Department's regulations. Saint Joseph's College also plans to install a new 40 kW propane fired emergency generator unit, which has an approximate maximum design heat input capacity of 0.45 MMBtu/hr and therefore is considered an insignificant activity.

F. Annual Emission Restrictions

Total Allowable Annual Emissions for the Facility
(used to calculate the annual license fee)

Pollutant	Tons/Year			
	Boilers	Additional Fuel Burning Equipment	Diesels	Total
PM	5.0	0.1	0.01	5.1
PM ₁₀	5.0	0.1	0.01	5.1
SO ₂	27.1	0.1	0.01	27.2
NO _x	9.9	2.6	0.2	12.7
CO	1.9	0.4	0.02	2.3
VOC	0.2	0.1	0.01	0.3

III. AMBIENT AIR QUALITY ANALYSIS

According to the Maine Regulations Chapter 115, the level of air quality analyses required for a minor source shall be determined on a case-by case basis. Based on the information available in the file, and the similarity to existing sources, Maine Ambient Air Quality Standards (MAAQS) will not be violated by this source. Based on the total facility emissions, Saint Joseph's College is below the emissions level required for modeling and monitoring.

ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards,
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-729-71-D-A/R subject to the following conditions:

STANDARD CONDITIONS

- (1) Employees and authorized representatives of the Department shall be allowed access to the licensee's premises during business hours, or any time during which any emissions units are in operation, and at such other times as the Department deems necessary for the purpose of performing tests, collecting samples, conducting inspections, or examining and copying records relating to emissions (Title 38 MRSA §347-C).
- (2) The licensee shall acquire a new or amended air emission license prior to commencing construction of a modification, unless specifically provided for in Chapter 115.
- (3) Approval to construct shall become invalid if the source has not commenced construction within eighteen (18) months after receipt of such approval or if construction is discontinued for a period of eighteen (18) months or more. The Department may extend this time period upon a satisfactory showing that an extension is justified, but may condition such extension upon a review of either the control technology analysis or the ambient air quality standards analysis, or both.

- (4) The licensee shall establish and maintain a continuing program of best management practices for suppression of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust, and shall submit a description of the program to the Department upon request.
- (5) The licensee shall pay the annual air emission license fee to the Department, calculated pursuant to Title 38 M.R.S.A. §353.
- (6) The license does not convey any property rights of any sort, or any exclusive privilege.
- (7) The licensee shall maintain and operate all emission units and air pollution systems required by the air emission license in a manner consistent with good air pollution control practice for minimizing emissions.
- (8) The licensee shall maintain sufficient records to accurately document compliance with emission standards and license conditions and shall maintain such records for a minimum of six (6) years. The records shall be submitted to the Department upon written request.
- (9) The licensee shall comply with all terms and conditions of the air emission license. The filing of an appeal by the licensee, the notification of planned changes or anticipated noncompliance by the licensee, or the filing of an application by the licensee for a renewal of a license or amendment shall not stay any condition of the license.
- (10) The licensee may not use as a defense in an enforcement action that the disruption, cessation, or reduction of licensed operations would have been necessary in order to maintain compliance with the conditions of the air emission license.
- (11) In accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department, the licensee shall:
 - (i) perform stack testing to demonstrate compliance with the applicable emission standards under circumstances representative of the facility's normal process and operating conditions:
 - a. within sixty (60) calendar days of receipt of a notification to test from the Department or EPA, if visible emissions, equipment operating parameters, staff inspection, air monitoring or other cause indicate to the Department that equipment may be operating out of compliance with emission standards or license conditions; or

- b. pursuant to any other requirement of this license to perform stack testing.
 - (ii) install or make provisions to install test ports that meet the criteria of 40 CFR Part 60, Appendix A, and test platforms, if necessary, and other accommodations necessary to allow emission testing; and
 - (iii) submit a written report to the Department within thirty (30) days from date of test completion.
- (12) If the results of a stack test performed under circumstances representative of the facility's normal process and operating conditions indicate emissions in excess of the applicable standards, then:
 - (i) within thirty (30) days following receipt of such test results, the licensee shall re-test the non-complying emission source under circumstances representative of the facility's normal process and operating conditions and in accordance with the Department's air emission compliance test protocol and 40 CFR Part 60 or other method approved or required by the Department; and
 - (ii) the days of violation shall be presumed to include the date of stack test and each and every day of operation thereafter until compliance is demonstrated under normal and representative process and operating conditions, except to the extent that the facility can prove to the satisfaction of the Department that there were intervening days during which no violation occurred or that the violation was not continuing in nature; and
 - (iii) the licensee may, upon the approval of the Department following the successful demonstration of compliance at alternative load conditions, operate under such alternative load conditions on an interim basis prior to a demonstration of compliance under normal and representative process and operating conditions.
- (13) Notwithstanding any other provisions in the State Implementation Plan approved by the EPA or Section 114(a) of the CAA, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any statute, regulation, or Part 70 license requirement.
- (14) The licensee shall maintain records of malfunctions, failures, downtime, and any other similar change in operation of air pollution control systems or the emissions unit itself that would affect emission and that is not consistent with the terms and conditions of the air emission license. The licensee shall notify the Department within two (2) days or the next state working day, whichever is later, of such occasions where such changes result in an increase of emissions. The licensee shall report all excess emissions in the units of the applicable emission limitation.

- (15) Upon written request from the Department, the licensee shall establish and maintain such records, make such reports, install, use and maintain such monitoring equipment, sample such emissions (in accordance with such methods, at such locations, at such intervals, and in such a manner as the Department shall prescribe), and provide other information as the Department may reasonably require to determine the licensee's compliance status.

SPECIFIC CONDITIONS

(16) Facility Boilers

- A. Saint Joseph's College shall fire #2 fuel oil with a sulfur content no greater than 0.35% sulfur by weight in Boilers #1, #2, #3, #4, and #5.
- B. Saint Joseph's College shall maintain a record of fuel oil purchases, which shall include certification from the supplier indicating the sulfur content of the purchased fuel.
- C. Boiler emissions shall not exceed the following:

Equipment		PM	PM₁₀	SO₂	NO_x	CO	VOC
Boiler #1	lb/hr	0.3	0.3	1.1	1.1	0.1	0.01
Boiler #2	lb/hr	0.3	0.3	1.1	1.1	0.1	0.01
Boiler #3	lb/hr	0.1	0.1	0.8	0.2	0.1	0.01
Boiler #4	lb/hr	0.2	0.2	1.3	0.4	0.1	0.01
Boiler #5	lb/MMBtu	0.08	-	-	-	-	-
	lb/hr	0.3	0.3	2.0	0.6	0.1	0.02

- D. Visible emissions from any boiler stack shall not exceed 20% opacity on a (6) six-minute block average.

(17) Additional Fuel Burning Equipment

- A. Boiler emissions shall not exceed the following:

Equipment		PM	PM₁₀	SO₂	NO_x	CO	VOC
HV #1	lb/hr	0.1	0.1	0.2	0.2	0.04	0.01
HV #2	lb/hr	0.1	0.1	0.2	0.2	0.04	0.01
Hwh #2	lb/hr	0.2	0.2	0.2	0.2	0.05	0.01

- B. Visible emissions from any boiler stack shall not exceed 20% opacity on a (6) six-minute block average.

(18) Emergency Generators

- A. Each emergency generator shall be limited to 500 hours per year of operation, based on a 12 month rolling total.
- B. An hour meter shall be installed, operated and maintained on each emergency generator within six months of the issuance of this license.
- C. The emergency generators shall be operated only when normal testing procedures, as recommended by the manufacturer, are being performed or in case of an emergency as defined in the Finding of Fact section of this license.
- D. Saint Joseph's College shall maintain a log documenting the dates, times and reason of operation for each emergency generator.
- E. Visible emissions from each emergency generator shall not exceed 10% opacity on a (6) six-minute block average.

(19) Saint Joseph's College shall notify the Department within 48 hours and submit a report to the Department on a quarterly basis if a malfunction or breakdown in any component causes a violation of any emission standard (Title 38 MRSA §605-C).

(20) Saint Joseph's College shall pay the annual air emission license fee within 30 days of October 31 of each year. Pursuant to 38 MRSA 353-A, failure to pay this annual fee in the stated timeframe is sufficient grounds for the revocation of the license under 38 MRSA 341-D, Subsection 3.

Saint Joseph's College of Maine)
Cumberland County)
Standish, Maine)
A-729-71-D-A/R 12

**Departmental
Findings of Fact and Order
Air Emission License**

(21) The term of this Order shall be for five (5) years from the signature below.

DONE AND DATED IN AUGUSTA, MAINE THIS DAY OF 2003.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: _____
DAWN R. GALLAGHER, COMMISSIONER

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: May 19, 2003

Date of application acceptance: May 20, 2003

Date filed with the Board of Environmental Protection: _____

This Order prepared by, Peter G. Carleton, Bureau of Air Quality